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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,126	09/17/2003	Bradley L. Todd	2003-IP-010228US1	4729

7590 12/29/2006  
Robert A. Kent  
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EXAMINER
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FIGUEROA, JOHN J

ART UNIT	PAPER NUMBER
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1712

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/29/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/664,126

Applicant(s)

TODD ET AL.

Examiner

John J. Figueroa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-31 and 47-68 is/are pending in the application.
- 4a) Of the above claim(s) 24-27, 31, 51-54 and 68 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-23, 28-30, 47-50 and 55-67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The 35 U.S.C. 102(b) rejection of claims 15-22, 29, 30, 47-49, 56-64, 66 and 67 over United States Patent Number (USPN) 6,387,986 B1 to Moradi-Araghi, hereinafter 'Moradi-Araghi' is maintained for the reasons previously made of record in items 5 and 18 on page 2 and 6, respectively, of the Office Action of June 30, 2006, hereinafter 'OA'.
2. The 35 U.S.C. 103(a) component of the rejection over Moradi-Araghi previously made of record in items 5 and 19 on pages 2 and 9, respectively, of OA has been withdrawn in view of the arguments in the response filed September 29, 2006, hereinafter 'Response'.
3. The 35 U.S.C. 103(a) rejection of claims 15, 23, 47, 50 and 65 as unpatentable over Moradi-Araghi is maintained for the reasons previously made of record in items 7 and 21 on pages 2 and 10, respectively, of OA.
4. The 35 U.S.C. 103(a) rejection of claims 28 and 55 as unpatentable over Moradi-Araghi in view of either USPN 5,728,652 to Dobson et al. (hereinafter 'Dobson'); USPN 5,191,931 to Himes et al (hereinafter 'Himes '); or USPN 4,531,594 to Cowan (hereinafter 'Cowan') is maintained for the reasons previously made of record in item 15 on page 4 of OA.

***Listing of Claims***

5. The listing of claims submitted with the amendment filed June 30, 2006 complies with 37 CFR 1.121. The listing of claims indicates the status of claims 68 as withdrawn and 69-81 as cancelled.

***Election/Restrictions***

6. Applicant's election to prosecute the claims in Group I of the restriction and the election of poly(orthoesters) as the species for the degradable material were made without traverse and was so indicated in the Office Action of December 13, 2006. The requirement is deemed proper and had been made FINAL in item 12 of A.

7. Accordingly, claims 15-31 and 47-68 are pending in this application and claims 24-27, 31, 51-54 and 68 have been withdrawn.

***Response to Arguments***

*The 35 U.S.C. 102/103 Rejection over Moradi-Araghi (item 5 on page 2 of OA)*

8. Examiner notes that Applicant has presented separate arguments for the 102 and 103 components of the 35 U.S.C. 102/103 rejection over Moradi-Araghi. Thus, the following response to Applicant's arguments is presented in the same manner, i.e., separately for the 102 or 103 components of this rejection.

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*a. The 102 Rejection*

9. Applicant's arguments filed February 17, 2006 regarding the 35 U.S.C. 102 rejection of claims 15-22, 29, 30, 47-49, 56-64 and 66-67 as anticipated by United States Patent Number (USPN) 6,387,986 B1 to Moradi-Araghi et al. (item 11 on page 10 of OA) have been fully considered but they are found not persuasive.

Examiner notes that the 103 component of this 35 U.S.C. 102/103 rejection has been withdrawn but that claims 15, 23, 47, 50 and 65 remain rejected under 35 U.S.C 103 over Moradi-Araghi as discussed below.

Applicant's arguments concerning Moradi-Araghi not disclosing "a bridging agent comprising a degradable material" are incorrect. As discussed previously in item 18 of OA, Moradi-Araghi discloses a drilling fluid comprising a mixture of calcium carbonate and a degradable polymer. As stated previously on page 7 of OA:

"Moradi discloses a gel-forming composition comprising a material encapsulated with a degradable first polymer ... and a weighting agent such as calcium carbonate ... *which can also act as a bridging agent* ... (see column 3, line 66 to column 4, line 27) ... [wherein] the degradable first polymer may be a polyorthoester (see column 3, lines 12-16) ... [that] can be used during drilling .... The capsules of the first polymer may be fairly small (see Example 1 and column 4) so [it] can act as a bridging agent. [Emphasis added]

Moradi-Araghi is thereby disclosing a gel-forming composition for drilling comprising, *inter alia*, calcium carbonate (a conventional bridging agent additive used to form a "bridge" along pores or fractures as shown previously in item 18 of OA) and a degradable polyorthoester polymer.

Applicants in the instant specification disclose that in **preferred** embodiments the bridging agent is a blend of bridging agent/degradable materials, such as a mixture of calcium carbonate and poly(lactic)acid (paragraph [0032]), and that the degradable material can be of any preferred size and shape, such as shavings, flakes, strips, spheroids, pellets and tablets (paragraph [0035]). Therefore, the drilling fluid disclosed in the instant specification encompasses a composition containing calcium carbonate as a bridging agent and a degradable polymer as an encapsulant.

Moreover, independent claims 15 and 47 recite the drilling fluid comprising the bridging agent comprising a degradable material. Therefore, in view of the specification (particularly, paragraph [0032]), a composition comprising calcium carbonate and degradable material would anticipate the bridging agent limitation because the composition would contain a mixture of calcium carbonate and degradable material.

In addition, in Example 1 (the sole sample of the composition provided in the instant specification) the disclosed composition contains aqueous sodium chloride, a liquid xanthan biopolymer, a starch derivative, powdered polylactic acid and calcium carbonate. Because the powdered polylactic acid is the degradable polymer component, whereas calcium carbonate must be the bridging agent, the phrase "bridging agent comprising a degradable material", used throughout the specification and claims, must encompass the situation wherein the bridging material and the degradable polymer are simply mixed together in the composition.

Applicant's arguments regarding the polylactic acid of the composition in Example 1 being both the degradable material **and** the bridging agent (and not calcium

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carbonate present in the composition) is confusing and misguided. The composition of Example 1 comprises a mixture of calcium carbonate (a well-known bridging agent) and a polylactic acid (an example of a degradable polymer, see instant claim 22), which is in accordance with the preferred embodiment for the bridging agent disclosed in paragraph [0032] of the specification. It is extremely unclear as to whether Applicant is arguing that a mixture of calcium carbonate and polylactic acid (or polyorthoester as in Moradi-Araghi) is not a "bridging agent comprising a degradable material" (which would contradict the previously cited section of the specification, paragraph [0032]); and/or whether Applicant is arguing that the bridging agent and the degradable material *must* be the same. If the latter, the recitation in claims 15 and 47 should instead recite, e.g., "wherein said bridging agent is polylactic acid, etc."

Consequently, Moradi-Araghi's gel-forming drilling composition comprising, *inter alia*, a degradable polyorthoester polymer and bridging material (calcium carbonate) anticipates the instant claims.

*b. The 103 Rejection*

10. Applicant's arguments regarding the 35 U.S.C. 103 component of this 35 U.S.C. 102/103 rejection of claims 15-22, 29-30, 47-49, 56-64 and 66-67 as obvious over Moradi-Araghi (item 5 on page 2 of OA) have been fully considered and they are found persuasive. Thus, this component of the instant rejection has been withdrawn.

11. Therefore, the 35 U.S.C. 102 rejection of 15-22, 29, 30, 47-49, 56-64 and 66-67 over Moradi-Araghi is maintained for the reason stated above.

The 103 Rejection over Moradi-Araghi (item 7 on page 2 of OA)

12. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claims 15, 23, 47, 50 and 65 as unpatentable over Moradi-Araghi have been fully considered but they are not persuasive.

Examiner's previous discussion in paragraph #11 of Applicant's arguments concerning Moradi-Araghi apply equally to the instant rejection and are incorporated herein.

Applicant's arguments regarding the lack of rationale for the "modification" of Moradi-Araghi to include a plasticizer or fluid loss agent are inaccurate. As stated previously in item 7 of OA, Moradi-Araghi is drawn to drilling fluid compositions, as are the instant claims. It is common in the art to add (modify) a drilling fluid by adding a plasticizer or fluid loss reducing agent to provide a more efficient method of drilling.

Regarding the "structural differences" between Moradi-Araghi and the drilling fluid encompassed by the instant claims, a recitation of an intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to *patentably distinguish* the claimed composition (and its process of use) from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Because Moradi-Araghi and the instant claims contain the same blend of bridging agent and degradable material, then said blend in both Moradi-Araghi and the instant claims must function in the same manner in their respective drilling fluids.



Thus, this 103 rejection over Moradi-Araghi is maintained.

*The 103 Rejection over Moradi-Araghi in view of Dobson, Himes or Cowan (item 15 on page 4)*

13. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claims 28 and 55 as unpatentable over Moradi-Araghi in view of Dobson, Himes or Cowan have been fully considered but they are not persuasive.

Moradi-Araghi was discussed above in paragraph #12 and all the arguments therein are incorporated herein.

Applicant's statement that "if the degradable polymer is optimized to act as a bridging agent ... with the particle sizes in the range recited in claims 28 and 55, it will not be permitted to degrade to release an encapsulated crosslinking agent into the fluid while in the subterranean formation" is extremely vague and confusing. Furthermore, the claims recite the degradable material having the particle size distribution *in the fluid*. A degradable material will, of course, degrade in solution upon release from its encapsulation. Thus, one skilled in the art would have been motivated by the teachings of Dobson, Himes or Cowan to optimize the particle size of any drilling fluid component, including the encapsulated degradable material in Moradi-Araghi, to have a preferred, resultant particle size in the fluid that will provide, e.g. enhanced fluid loss prevention.

Thus, the instant claims are unpatentable over Moradi-Araghi and either Dobson, Himes or Cowan.

***Conclusion***

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Mon-Thurs & alt. Fri 8:00-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJF/RAG



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